

No.

200000212



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

NASH Research Foundation

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE FOREGOING PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMERICAL GENERATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

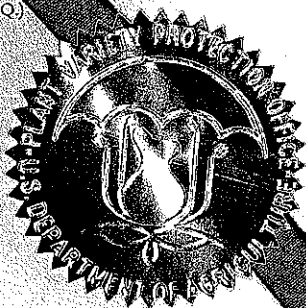
WHEAT, COMMON

'Parshall'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twenty-fourth day of April, in the year of our Lord two thousand one.

Attest:

Alvin K. Post
Acting Commissioner
Plant Variety Protection Office
Agricultural Marketing Service



[Signature]
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

The following state laws are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER NDSU RESEARCH FOUNDATION		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME ND694		3. VARIETY NAME Parshall	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) c/o Executive Director PO Box 5014 Fargo, ND 58105-5014		5. TELEPHONE (include area code) 701-231-8931		FOR OFFICIAL USE ONLY PVPO NUMBER 20000021 FILING DATE MARCH 30, 2000	
		6. FAX (include area code) 701-231-1013			
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) 501 (c) (3) Corporation		8. IF INCORPORATED, GIVE STATE OF INCORPORATION North Dakota		9. DATE OF INCORPORATION May 1989	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers)				FILING AND EXAMINATION FEES: \$ 2450. ⁰⁰ DATE 3-30-2000 CERTIFICATION FEE: \$ 320. ⁰⁰ DATE 4-18-01	
Richard C. Frohberg Department of Plant Sciences North Dakota State University PO Box 5051 Fargo, ND 58105-5051		Dale Zetocha Executive Director NDSU Research Foundation PO Box 5014 Fargo, ND 58105-5014			
11. TELEPHONE (Include area code) 701-231-8143		12. FAX (Include area code) 701-231-8474		13. E-MAIL frohberg@prairie.nodak.edu	
14. CROP KIND (Common Name) hard red spring wheat					
15. GENUS AND SPECIES NAME OF CROP triticum aestivum L.		16. FAMILY NAME (Botanical) Gramineae		17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)			19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? See Section 83(a) of the Plant Variety Protection Act		
a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,450), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)			<input checked="" type="checkbox"/> YES (If "yes", answer items 20 and 21 below) <input type="checkbox"/> NO (If "no," go to item 22)		
			20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
			21. IF "YES" TO ITEM 20, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED		
22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)			23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)		
24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.					
SIGNATURE OF OWNER <i>Dale Zetocha</i>			SIGNATURE OF OWNER		
NAME (Please print or type) Dale Zetocha			NAME (Please print or type)		
CAPACITY OR TITLE Executive Director NDSU Research Foundation		DATE 3/28/00		CAPACITY OR TITLE	
				DATE	

INSTRUCTIONS

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$2,450 (\$300 filing fee and \$2,150 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. DO NOT use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$300 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvp.htm>

ITEM

- 18a. Give:
- (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
 - (2) the details of subsequent stages of selection and multiplication;
 - (3) evidence of uniformity and stability; and
 - (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
 - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
 - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
19. If "Yes" is specified (seed of this variety be sold by variety name only, as a class of certified seed), the applicant MAY NOT reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
23. See Section 5.5 of the Act for instructions on claiming the benefit of an earlier filing date.

22. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

USA - Released as a named cultivar, March 31, 1999.

23. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

'Grandin' wheat is a component of this variety and received Plant Breeders Rights in Canada - Certificate No. 0046 on August 25, 1993 by the North Dakota Agricultural Experiment Station.

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the variety names proposed by contacting: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center-East, Beltsville, MD 20705. Telephone: (301) 504-8089.

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Agriculture, Clearance Officer, OIRM, AG Box 7630, Jamie L. Whitten Building, Washington, D.C. 20250. When replying, refer to OMB No. 0581-0055 and form number in your letter. Under the PRA of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

The U.S. Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, and marital or familial status. (Not all prohibited bases apply to all programs). Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotope, etc.) should contact the USDA Office of Communications at (202) 720-2791. To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call (202) 720-7327 (voice) or (202) 720-1127 (TDD). USDA is an equal opportunity employer.

S&T-470 (6-98) designed by the Plant Variety Protection Office with WordPerfect 6.0a. Replaces STD-470 (03-96) which is obsolete.

Exhibit A - Origin and Breeding History 'Parshall' Wheat

Fall 1990	Original cross made at North Dakota State University (NDSU) greenhouse. Pedigree - Keene/ND674
	ND674 is a public breeding line derived from the cross. Grandin*2/Glupro
Spring 1991	F ₁ plants, NDSU greenhouse.
Summer 1991	F ₂ plants, spaced plant nursery, NDSU research land.
Spring 1992	F ₃ plants, single-seed-descent, NDSU greenhouse.
Summer 1992	F ₄ progeny plot, NDSU research land.
Winter 1992-1993	F ₅ head row (F ₄ - derived), Arizona.
Summer 1993	F ₆ progeny plot, NDSU research land.
Winter 1993-1994	F ₇ head row (F ₆ - derived), Arizona.
Summer 1994	F ₈ preliminary yield trial, 2 locations, NDSU research land.
Winter 1994-1995	F ₉ seed increase rows (5), Arizona.
Summer 1995	F ₁₀ elite yield trial, 4 locations, NDSU research land. Seed increase (72 lbs.), Casselton, ND
Summer 1996	Seed increase (132 lbs), Casselton ND
Summer 1996-98	North Dakota HRS wheat variety trial, 7 locations each year. Experimental line designation - ND694. Uniform Regional HRS Wheat Nursery, about 20 locations each year, Upper Midwest, USA.
Summer 1997-1998	Seed increase, Seedstocks Project, NDSU.
March 31, 1999	ND694 released as a named cultivar, 'Parshall'.

Observations indicate Parshall is uniform and stable within commercially acceptable limits for all traits as described in Exhibit C. Uniformity and stability of Parshall were observed 1994-1998 for five generations (F₈ - F₁₃). Variants (taller plants, 5-7 cm) occurrence at a frequency of 4/10,000 and awnless plant variants at a trace frequency of less than 1/10,000.

Selection criteria for the breeding of Parshall wheat were highly heritable traits (i.e. plant height, maturity, disease resistance) in the early segregating generations, F_2 - F_6 . Beginning in the F_8 generation, selection criteria also included lodging resistance, shattering resistance, test weight, grain yield and breadmaking quality (grain protein, milling extraction, dough mixing, loaf volume, external and internal loaf appearance). Data were obtained from multiple locations and over years to evaluate and identify the experimental line ND694 that was named Parshall. Overall, the selection criteria were a combination of traits used to identify a superior hard red spring wheat genotype adapted to North Dakota wheat production, and a genotype having acceptable (compared to check cultivars) milling and breadmaking properties for domestic and export markets.

EXHIBIT B - Statement of Distinctness

To my knowledge 'Parshall' most nearly resembles 'Keene' and 'Trenton'. Differences include but are not necessarily restricted to the following:

1. Parshall differs from Keene and Trenton for gel electrophoresis pattern (PAGE) shown in a computer generated image (Figure 1). An arrow (A) indicates a band difference.
2. Parshall is photoperiod insensitive (daylength neutral) and Keene is photoperiod sensitive.

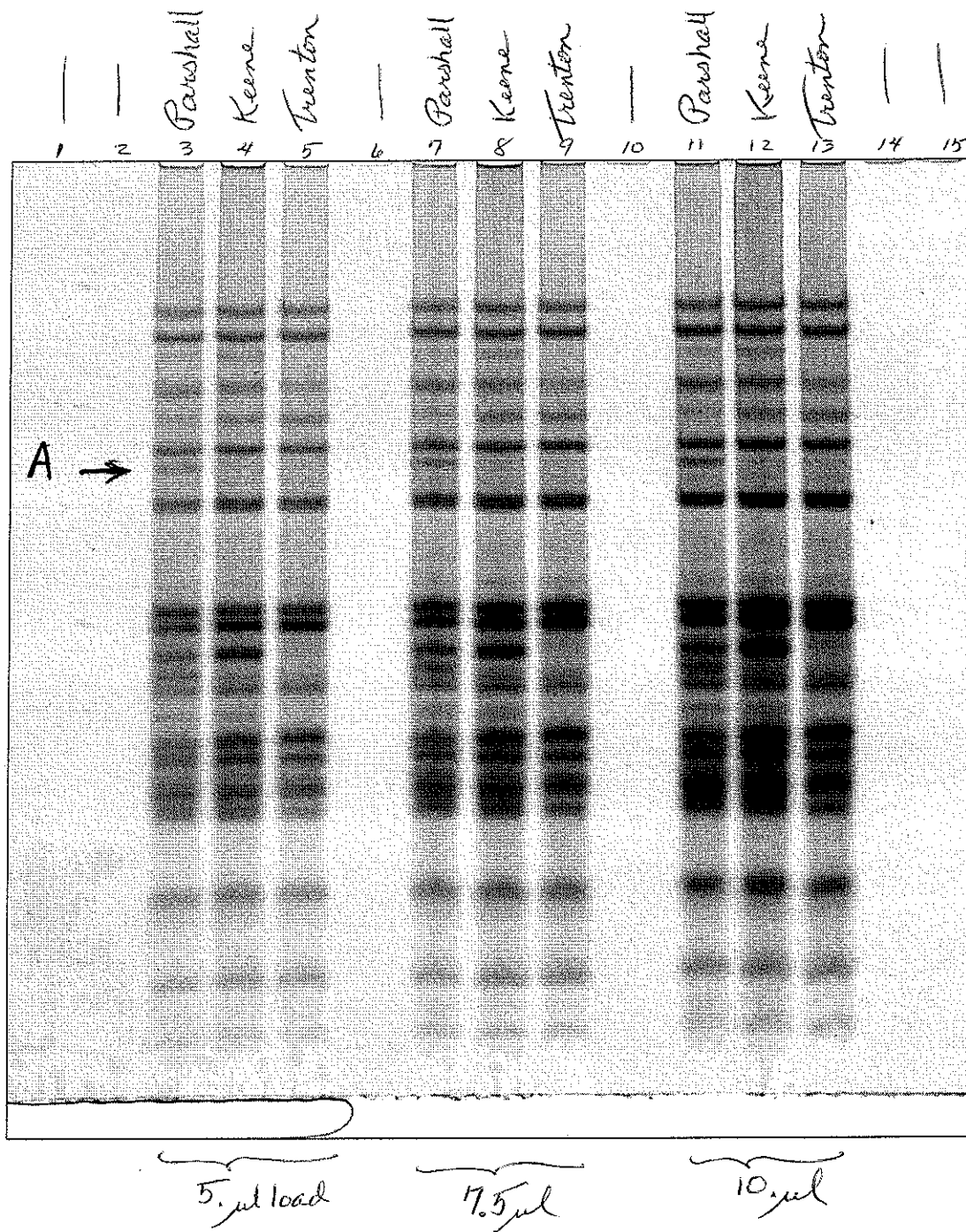
2/17/2000 — A-PAGE

#2053

— 1.5-mm, 7.25%T gel

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Fig. 1 — Aliadin patterns, HRSW samples rec'd from Dr R. Froberg
for documentation of Plant Variety Protection



— Extn = 50. mg / 300. µl 70. % EtOH @ 40°C ~ 1 hr,
then centrifuge + combine supernatant 1:1 w/ sample buffer.

— Stain CBB-G

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U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

EXHIBIT C
(Wheat)

OBJECTIVE DESCRIPTION OF VARIETY
WHEAT (*Triticum* spp.)

NAME OF APPLICANT(S) NDSU Research Foundation	FOR OFFICIAL USE ONLY
ADDRESS (Street and No. or RD No., City, State, and Zip Code) c/o Executive Director P.O. Box 5014 Fargo, ND 58105-5014	PVPO NUMBER 200000212
	VARIETY NAME
	TEMPORARY OR EXPERIMENTAL DESIGNATION

PLEASE READ ALL INSTRUCTIONS CAREFULLY: Place the appropriate number that describes the varietal character of this variety in the boxes below. Place a zero in the first box (e.g. or) when number is either 99 or less or 9 or less respectively. Data for quantitative plant characters should be based on a minimum of 100 plants. Comparative data should be determined from varieties entered in the same trial. Royal Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used: Please answer all questions for your variety; lack of response may delay progress of your application.

1. KIND:

1=Common 2=Durum 3=Club 4=Other (SPECIFY): _____

2. VERNALIZATION:

1=Spring 2=Winter 3=Other (SPECIFY): _____

3. COLEOPTILE ANTHOCYANIN:

1=Absent 2=Present

4. JUVENILE PLANT GROWTH:

1=Prostrate 2=Semi-erect 3=Erect

5. PLANT COLOR (boot stage):

1 = Yellow-Green 2 = Green 3 = Blue-Green

6. FLAG LEAF (boot stage):

1 = Erect 2 = Recurved 1 = Not Twisted 2 = Twisted

7. EAR EMERGENCE:

Number of Days Earlier Than 'AC Barrie' *

Number of Days Later Than 'Butte 86' *

8. ANTHOR COLOR:

☐ 1

1 = Yellow

2 = Purple

9. PLANT HEIGHT (from soil to top of head, excluding awns):

☐ 0 ☐ 5

cm Taller Than

'Butte 86'

☐ 0 ☐ 5

cm Shorter Than

'Trenton'

* Relative to a PVPO-Approved Commercial Variety Grown in the Same Trial

10. STEM:

A. ANTHOCYANIN

☐ 1

1 = Absent

2 = Present

B. WAXY BLOOM

☐ 1

1 = Absent

2 = Present

C. HAIRINESS (last internode of rachis)

☐ 2

1 = Absent

2 = Present

D. INTERNODE (SPECIFY NUMBER) 06☐ 1

1 = Hollow

2 = Semi-solid

3 = Solid

E. PEDUNCLE

☐ 2

1 = Absent

2 = Present

☐ 27

cm Length

11. HEAD (at Maturity):

A. DENSITY

☐ 2

1 = Lax

2 = Middense

3 = Dense

B. SHAPE

☐ 1

1 = Tapering

2 = Strap

3 = Clavate

4 = Other (SPECIFY):

C. CURVATURE

☐ 1

1 = Erect

2 = Inclined

3 = Recurved

D. AWNEDNESS

☐ 4

1 = Awnless

2 = Apically Awnletted

3 = Awnletted

4 = Awned

12. GLUMES (at Maturity):

A. COLOR

☐ 3

1 = White

2 = Tan

3 = Other (SPECIFY): Yellow

C. BEAK

☐ 3

1 = Obtuse

2 = Acute

3 = Acuminate

B. SHOULDER

☐ 5

1 = Wanting

2 = Oblique

3 = Rounded

4 = Square

5 = Elevated

6 = Apiculate

D. LENGTH

☐ 2

1 = Short

2 = Medium

(ca. 7mm)

(ca. 8mm)

3 = Long (ca. 9mm)

2. GLUMES (at Maturity) Continued:

E. WIDTH

☒ 1 = Narrow (ca. 3mm) 2 = Medium (ca. 3.5mm)
3 = Wide (ca. 4mm)

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3. SEED:

A. SHAPE

☒ 1 = Ovate 2 = Oval 3 = Elliptical

C. BRUSH

☒ 1 = Short 2 = Medium 3 = Long
☒ 1 = Not Collared 2 = Collared

B. CHEEK

☒ 1 = Rounded 2 = Angular

D. CREASE

☒ 1 = Width 60% or less of Kernel
2 = Width 80% or less of Kernel
3 = Width Nearly as Wide as Kernel
☒ 1 = Depth 20% or less of Kernel
2 = Depth 35% or less of Kernel
3 = Depth 50% or less of Kernel

E. Color

☒ 1 = White 2 = Amber 3 = Red
4 = OTHER (Specify)

G. PHENOL REACTION (see instructions):

☒ 1 = Ivory 2 = Fawn
3 = Light Brown 4 = Dark Brown
5 = Black

F. TEXTURE

☒ 1 = Hard 2 = Soft

DISEASE: (0=Not Tested; 1=Susceptible; 2=Resistant; 3=Intermediate; 4=Tolerant)

PLEASE INDICATE THE SPECIFIC RACE OR STRAIN TESTED

☒ Stem Rust (*Puccinia graminis* f. sp. *tritici*)
CRL-QFB, -QSH, -RHR
CRL-RTQ
☐ Stripe Rust (*Puccinia striiformis*)

☒ Leaf Rust (*Puccinia recondita* f. sp. *tritici*)
Predominant ND field races.

☒ Tan Spot (*Pyrenophora tritici-repentis*)
ND field isolates

☐ Loose Smut (*Ustilago tritici*)

☐ Halo Spot (*Selenophoma donacis*)

☐ Flag Smut (*Urocystis agropyri*)

☐ *Septoria nodorum* (Glume Blotch)

☐ Common Bunt (*Tilletia tritici* or *T. laevis*)

☐ *Septoria avenae* (Speckled Leaf Disease)

☐ Dwarf Bunt (*Tilletia controversa*)

☐ *Septoria tritici* (Speckled Leaf Blotch)

☐ Karnal Bunt (*Tilletia indica*)

☒ Scab (*Fusarium* spp.)

☐ Powdery Mildew (*Erysiphe graminis* f. sp. *tritici*)

☐ "Snow Molds"

14. Disease (Continued) (0=Not Tested; 1=Susceptible; 2=Resistant; 3=Intermediate; 4=Tolerant)

PLEASE INDICATE THE SPECIFIC RACE OR STRAIN TESTED

- | | |
|---|--|
| <input type="checkbox"/> "Black Point" (Kernel Smudge) | <input checked="" type="checkbox"/> Common Root Rot (<i>Fusarium</i> , <i>Cochliobolus</i> and <i>Bipolaris</i> spp.) |
| <input type="checkbox"/> Barley Yellow Dwarf Virus (BYDV) | <input type="checkbox"/> Rhizoctonia Root Rot (<i>Rhizoctonia solani</i>) |
| <input type="checkbox"/> Soilborne Mosaic Virus (SBMV) | <input type="checkbox"/> Black Chaff (<i>Xanthomonas campestris</i> pv. <i>translucens</i>) |
| <input type="checkbox"/> Wheat Yellow (Spindle Streak) Mosaic Virus | <input type="checkbox"/> Bacterial Leaf Blight (<i>Pseudomonas syringae</i> pv. <i>syringae</i>) |
| <input type="checkbox"/> Wheat Streak Mosaic Virus (WSMV) | <input type="checkbox"/> Other (SPECIFY) |
| <input type="checkbox"/> Other (SPECIFY) | <input type="checkbox"/> Other (SPECIFY) |
| <input type="checkbox"/> Other (SPECIFY) | <input type="checkbox"/> Other (SPECIFY) |
| <input type="checkbox"/> Other (SPECIFY) | <input type="checkbox"/> Other (SPECIFY) |

15. INSECT: (0=Not Tested; 1=Susceptible; 2=Resistant; 3=Intermediate; 4=Tolerant)

PLEASE SPECIFY BIOTYPE (where needed)

- | | |
|--|--|
| <input type="checkbox"/> Hessian Fly (<i>Mayetiola destructor</i>) | <input type="checkbox"/> Other (SPECIFY) |
| <input type="checkbox"/> Stem Sawfly (<i>Cephus</i> spp.) | <input type="checkbox"/> Other (SPECIFY) |
| <input type="checkbox"/> Cereal Leaf Beetle (<i>Oulema melanopa</i>) | <input type="checkbox"/> Other (SPECIFY) |
| <input type="checkbox"/> Russian Aphid (<i>Diuraphis noxia</i>) | <input type="checkbox"/> Other (SPECIFY) |
| <input type="checkbox"/> Greenbug (<i>Schizaphis graminum</i>) | <input type="checkbox"/> Other (SPECIFY) |
| <input type="checkbox"/> Aphids | <input type="checkbox"/> Other (SPECIFY) |

16. ADDITIONAL INFORMATION ON ANY ITEM ABOVE, OR GENERAL COMMENTS

None

Exhibit D - Additional Description 'Parshall' Wheat

When Parshall is compared to 'Amidon' and 'Stoa', it is photoperiod insensitive (daylength neutral). Amidon and Stoa are photoperiod sensitive.

THE VALUES WERE DETERMINED
BY AVERAGING VALUES FROM
THE FOLLOWING

1996
1997
1998

NORTH DAKOTA STATE UNIVERSITY
AGRICULTURAL EXPERIMENT STATION
DEPARTMENT OF CEREAL SCIENCE AND FOOD TECHNOLOGY
ANALYTICAL, MILLING AND BAKING DATA

FIELD PLOT VARIETY TRIALS
TABLE 7
AVERAGES OF 3 YEARS

3 HOUR FERMENTATION

FARINOGRAM

VARIETY OR NUMBER	YLD BPA	WT LB/BU	KER %	NO SEC	WHT		EXT %	GLU %	ASH %	TIME			MTI BU	CLASS	ABS %	TIME		VOL CC	G-T	CB CL	CT CL	SYM
					FAL	14% MB				MIN	MIN	MIN				DO						
BUTTE 86	ND	60.0	63	410	15.3	14.4	69.0	41.1	0.45	7.9	14.1	22	4.8	64.8	2.50	9.8	1045	7.9	8.1	10.0	10.0	
GRANDIN	ND	60.4	63	399	15.3	14.4	70.4	38.9	0.47	10.9	18.0	22	6.3	64.0	3.15	9.8	1067	7.9	8.2	10.0	9.9	
KEENE	ND	61.3	69	364	15.0	14.1	69.2	40.2	0.44	8.7	15.7	23	5.7	64.9	2.65	9.8	1049	8.0	8.7	10.0	9.9	
PARSHALL	ND	61.6	72	398	15.5	14.7	69.9	39.6	0.45	11.2	17.1	21	6.4	63.7	3.00	9.8	1113	8.0	8.5	10.0	10.0	
REEDER	ND	60.7	56	414	15.1	14.3	68.8	40.7	0.42	9.4	15.0	20	6.0	63.1	2.70	9.6	1056	7.7	7.9	10.0	9.7	
TRENTON	ND	60.6	69	374	15.2	14.3	70.5	37.8	0.44	13.2	23.3	17	7.0	63.2	3.40	9.8	1079	8.2	8.5	10.0	9.9	

200000212

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) NDSU RESEARCH FOUNDATION	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER ND694	3. VARIETY NAME Parshall
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) c/o Executive Director P.O. Box 5014 Fargo, ND 58105-5014	5. TELEPHONE (include area code) 701-231-8931	6. FAX (include area code) 701-231-1013
7. PVPO NUMBER 200000212		

8. Does the applicant own all rights to the variety? Mark an "X" in appropriate block. If no, please explain. ☒ YES ☐ NO

9. Is the applicant (individual or company) a U.S. national or U.S. based company?
If no, give name of country ☒ YES ☐ NO

10. Is the applicant the original owner? ☐ YES ☒ NO If no, please answer one of the following:

a. If original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. national(s)?

☒ YES ☐ NO If no, give name of country

b. If original rights to variety were owned by a company(ies), is(are) the original owner(s) a U.S. based company?

☒ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (if needed, use reverse for extra space):

See reverse - Statement of the basis of the applicant's ownership.

PLEASE NOTE:

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call 1-800-245-6340 (voice) or (202) 720-1127 (TDD). USDA is an equal employment opportunity employer.

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Exhibit E Item 11.

Statement of the Basis of the Applicant's Ownership

Dr. Richard C. Frohberg, an employee of the North Dakota Agricultural Experiment Station and North Dakota State University, is a plant breeder who developed 'Parshall' the hard red spring wheat cultivar for which Plant Variety Protection is hereby sought. The employee by agreement and because of the condition of the use of facilities and funds of the North Dakota Agricultural Experiment Station and North Dakota State University has assigned all ownership rights to 'Parshall' hard red spring wheat to the North Dakota Agricultural Experiment Station and North Dakota State University.

North Dakota State University on behalf of the North Dakota Agricultural Experiment Station has assigned all ownership to the NDSU Research Foundation. The NDSU Research Foundation is a nonprofit corporation set up to own and manage the intellectual property of North Dakota State University.

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